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ABSTRACT

How the pressure of a stiff competition for admission to medical school affects undergraduates at Yale University is examined. Results of questionnaires completed by 317 Yale undergraduates including 101 premedical students, in 1977, are presented. It was found that students do hold a fairly strong negative stereotype of the premedical student who is seen as excessively hard-working, competitive, grade-conscious, narrow in interests, less sociable than others, and more interested in money or prestige. It was also found that premeds themselves share the negative stereotype held by many others. It is indicated that the self-descriptions and occupational values of premeds suggest that some aspects of the stereotype may precede the situation while other aspects seem more likely to be situationally induced. An analysis of subgroups within the premed group is provided, with comparisons between the self-descriptions and occupational values of men and women, whites and non-whites, and science majors and premeds majoring in other subjects. It is shown that students' attitudes toward premedical students are completely independent of their evaluations of the status of physicians. (SPG)

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THE PREMED STEREOTYPE

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College students today do not need the evidence provided by economist Richard Freeman (1976) to know that their degrees will no longer guarantee them occupational success. Popular accounts of undergraduate life describe a dramatic change from the social and political involvements of the sixties to a concern with studies and career (Morgan, 1976; Lamb, 1977; Wolf, 1978). Some commentators still see social responsibility and self-realization as important to today's undergraduates; others argue that the climate of economic insecurity has led to a new materialism. Whatever the goals, the means of attaining them are frequently the professional schools of medicine, law, and business, and the competition for admission to these schools is said to epitomize the undergraduate experience of the seventies.

The ideology of our society is meritocratic, although it hardly needs to be pointed out that reality is a very distant approximation of a meritocracy. In his negative utopia, The Rise of the Meritocracy, Michael Young (1961) has described some of the more unpleasant aspects of life in a society which fully embodies the meritocratic ideal. The competition among undergraduates for scarce places in professional schools provides a microcosm within which to consider the ways in which individuals react to the presumed meritocratic selection process, and might be expected to reveal some of the negative aspects of this process. One of us (Rosenbaum, 1976) has already examined the operation of selection processes in a predominantly working class high school. The present study allows us to consider a similar process in the very different setting of an elite university.

This paper considers how the pressures of a stiff competition for admission to medical school make themselves felt among undergraduates at Yale University. The concerns of the study as a whole were first, to document to what extent academic pressures were felt among Yale undergraduates, second, to say something about the consequences of these pressures, and third, to suggest ways in which to ameliorate, if not to resolve, some of the problems faced by all students, but especially by pre-professional students. For the purposes of this paper, we focus primarily on the pre-medical student.

Data and Methods

Our data come from a questionnaire completed by 317 Yale undergraduates during sessions arranged for this purpose in the Spring of 1977. Nearly two-thirds (65.4%) of those invited to participate in the study actually completed questionnaires. Using background information about students from college records, it was possible to compare those who did not respond to our request with those who participated in the study. The percentages of minority group members and of women are similar in the two groups, but the participants had slightly higher SAT scores.

Among these 317 undergraduates are 132 sophomores and 106 seniors selected at random from their respective class lists. One hundred and thirtyone seniors who applied to medical school in the spring of 1977 were invited to participate, and 79 did so. Counting the pre-medical students in the random sample, there are 101 premeds altogether, including 12 sophomores.

The questionnaire, which included both closed and open questions, took just under one hour to complete. Questionnaire responses were supplemented with other data from the files of the Registrar's Office, including grades for the academic year 1976-7, SAT scores, and MCAT scores for the premedical students.

Questions and Hypotheses

The general concerns outlined above suggested a number of questions. Given that we did not, in most instances, have specific hypotheses regarding the relationships among particular items, our approach in answering these questions was essentially a descriptive one. The principal method used was the t-test of difference between means. Since 5% of the differences would be significant by chance, we have interpreted only those differences that seemed to fit into a consistent pattern. Unless otherwise noted, all comparisons are significant at least at the .05 level.

(1) To what extent do students hold a negative stereotype of premeds?

Students were asked how they felt towards others in different majors or with different career plans (e.g. prelaw, premedical, and pre-graduate school students, natural science majors, English majors, etc.). The lowest rating was assigned to premedical students. A t-test confirms that the difference between the mean rating of premeds and the mean rating of all groups is highly significant (t-value $\leq$ .001). Students were also asked whether they thought that premeds were different from other students, and if so how. Over two-thirds of

all respondents feel that premeds are different, but only 15 of these 227 respondents give clearly positive descriptions of the differences. A number of the negative comments are extremely critical, and many neutral comments describe attributes which would not usually be considered positive.

In short, students clearly do hold a fairly strong negative stereotype of the premedical student. The premed is seen as excessively hard-working, competitive, grade-conscious, narrow in interests, less sociable than others, and more interested in money or prestige. On the positive side, premeds are described as having a sense of direction and as being highly motivated.

(2) To what extent do premedical students' own self-descriptions and their own views of premeds coincide with the stereotype?

We were surprised to find that premeds themselves share the negative stereotype held by many other students. In rating how they feel about various groups of students, premeds place their own group below all others except prelaw students. Although they give their own group a slightly higher average rating than do other students, this difference is not significant. Furthermore, their comments are as pejorative as those of other students.

In their self-descriptions too, the premeds tend to confirm some, though by no means all, of the negative generalizations. All respondents were asked to compare themselves with the average Yale undergraduate on 39 dimentions. These dimensions were identified by earlier research

as criteria frequently used to judge student success at Yale(Taber and Hackman, 1976). Premedical students see themselves as significantly higher than average in mathematical ability, scientific ability, and development of career plans, and lower in writing ability, speaking ability, creativity and originality, and leadership skills. In describing what they consider important in a job, premeds give significantly greater importance than other students to job security, prestige, being helpful to others, availability of job opportunities, working with people, and the opportunity to make an important contribution to society. They give significantly less importance to the opportunity to be original and creative and the chance to exercise leadership.

In a number of respects, the self-descriptions and occupational values of the Yale premeds are strikingly similar to those found by Leonard Baird (1975) in a national survey. Baird found that "future medical students rated themselves relatively high on scholarship, scientific ability, mathematical ability, and perseverance, and low on creativity. They also had fairly high ratings on sympathy for others in trouble." (Baird, 197 : 1095) When asked about the reasons for their career choices, the premedical students in Baird's sample stressed concern for others, but they also placed the highest value of any group on security.

The convergence among the premedical student stereotype, the premeds' own views of themselves, both as a group and as individuals, and the results of Baird's research all indicate that there is at least some truth in the stereotype, though of course it fails to note the positive characteristics of these students.

(3) Granted that there is some congruence between the stereotype and the self-perceptions of premedical students, is this a result of situational pressures faced by the premeds, of self-selection, or of both?

We cannot answer this question with confidence without longitudinal data. The self-descriptions and occupational values of premeds suggest that some aspects of the stereotype may precede the situation (e.g. lower creativity and originality, concern with security and prestige). However, other aspects seem more likely to be situationally induced (e.g. competitiveness, grade consciousness, a tendency to be hard-working). It would be interesting to test these speculations through a panel study.

(4) Are there distinct subgroups within the premed group?

In seeking an answer to this question, we compared the self-descriptions and occupational values of men and women, whites and non-whites, and science majors and premeds majoring in other subjects. Comparisons were based on the 39 self-description items and the 30 occupational values items. Differences between groups within the premed population must be viewed from the perspective of differences between the same groups in the population at large. Thus, for example, in comparing men and women premedical students, we refer to the differences between men and women students in general.

In several respects, the self-descriptions and occupational values of women premeds deviate from the premed stereotype more than those of men. For example, women care less about high anticipated earnings or the possibility of rapid advancement, and care more about

the opportunity to behave in congruence with their ethical values. They also describe themselves as having greater artistic ability than the men. It is interesting to note that in all of these respects the differences between men and women seniors who are not premeds are not significant.

In other ways, women premedical students are very similar to their male counterparts. This is all the more striking when one considers the differences between men and women among the seniors who are not premeds. Women in general tend to describe themselves as having less ability than men in math and the sciences and having more ability in foreign languages, but only the difference in mathematical ability remains significant among the premed group. Women describe themselves as enjoying life more and as being more optimistic than men. In their occupational values, they tend to give greater importance to variety and to having time for family and friends. These differences are all attenuated among the premeds. Whereas female premeds are characterized by a number of positive traits which the male premeds do not have to the same extent, they also "lose" a number of positive traits or values on which other women differ from men.

We turn now to the differences between whites and nonwhites. Sixty seven of the senior premeds were categorized as white and nine as non-white. The self-descriptions suggest that the nonwhite premeds are in many ways exceptional, not only when compared to other nonwhites, but also when compared to white premeds. Nonwhite premeds rate themselves more highly on creativity and originality, artistic ability, intellectual growth in college, perseverance, and openness and

tolerance than do white premeds. On the other hand, they give themselves lower ratings on academic achievement.

Of the seniors in our sample who are not premeds, only seven are non-white. The self-described differences between whites and non-whites in this group suggest a less happy adaptation of the non-whites. The latter say that they enjoy Yale less, that they feel less "congruent with Yale," and that their academic achievement is lower than that of whites. Perhaps more disturbing, they rate themselves lower on ethical behavior and slightly lower on general intelligence. And in their views on what is important in a job, they place greater emphasis upon security and less emphasis on the opportunity to be one of the best in their field. But on every one of these dimensions, there is less difference between white and non-white premeds than between whites and non-whites in general, and none of the differences are significant within the premed group.

The differences between premeds who are science majors and those who are not do not form a readily identifiable pattern apart from some obvious points. The science premeds are more committed to an academic field and give less importance to having time for family and friends and to having close personal relationships at work. These observations are not unexpected.

(5) How do students who were premed but changed their plans differ from those who are still premed?

Once again, the findings give some support to the stereotype. Former premeds rate themselves as higher on intellectual curiosity,

creativity and originality, and artistic ability. In their occupational values, they place greater importance on opportunities for creativity, and, conversely, they attribute less importance to high earnings, prestige, and job security.

However, those who continue as premeds are not characterized solely by negative attributes. Compared to former premeds, they describe themselves as more concerned with being helpful to others, and give more importance to working with people. (This last comparison is significant only at the .06 level.) The premeds are also slightly more interested in making a contribution to society (t-value $\leq$ .08). Finally, those who remain premed rate themselves higher on scientific ability. Once again, the premed emerges as stolid, conservative, but nonetheless devoted to the welfare of his fellow man (and woman?).

(6) Is the holding of a negative view of premeds related to the student's own anxieties about academic performance? How is grade-point average related to negative stereotyping?

We had hypothesized that stereotyping might be a response to the student's own poor performance and/or feelings of anxiety about performance. Neither of these hypotheses is confirmed. Correlations between the items measuring stereotyping on the one hand and scales measuring perceptions of competition and pressure and reactions thereto on the other hand are low and not significant. Nor are correlations between grade point average and stereotyping significant.

(7) Our final question concerns the relationship between students' views of premeds and their evaluations of the medical profession. We were interested to see whether the negative image many

undergraduates seem to have of premeds carries over into their evaluation of the medical profession.

With this and other purposes in mind, we asked the students to evaluate on a five-point scale the relative status accorded to 18 professional occupations. Studies of occupational prestige have repeatedly found that "physician" is ranked among the most prestigious of occupations (Hodge, Siegel, and Rossi, 1966). Our sample is no exception. "Primary care physician" is ranked second only to "author," and "research physician" is tied for fourth place with "legal aid lawyer." Furthermore, students' attitudes toward premedical students are completely independent of their evaluations of the status of physicians. It is curious that the most despised group of undergraduates should, in the space of four short years, be transformed into a member of one of the most respected occupations -- respected even by undergraduates.

Conclusions

We have found that there is indeed a stereotype of premedical students, and it is not a flattering one. We have found, too, that it is shared by the premeds themselves, and it emerges not only in their views of premeds as a group, but also to some extent in their self-descriptions. Yet there is, within the premed group, a considerable amount of variation. The white male science major has more in common with the stereotype than does the non-white woman non-science major. Oversimplifying considerably, we can say that women, non-white, and non-science premeds are less oriented toward prestige and career

advancement and are broader in their interests. One may wonder to what extent white male premeds have the attributes they do because of the severity of, and the criteria used in, the selection process. In an case, it may be that the increasing number of women and non-whites now entering the medical profession will gradually bring about a change in the criteria used for selection.

Our study of premedical students was conducted in the context of a broader study of pressure and competition in Yale College. The premed experience epitomizes such pressure, but it is not absent elsewhere in the College. Most of the students in our sample feel that there is a good deal of pressure and competitiveness in undergraduate life, but, to our surprise, only a minority experience this pressure as troublesome. Yet it is a substantial minority, well over 25%, and their responses often indicate pain as well as trouble. Given the meritocratic ideal espoused by our society, competition, pressure, and their consequences cannot be avoided by creating an oasis of security within any institution. What we can do, however, is to give students, premeds as well as others, a more realistic awareness of the larger forces impinging upon them and of the many forms that "success" can take.

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